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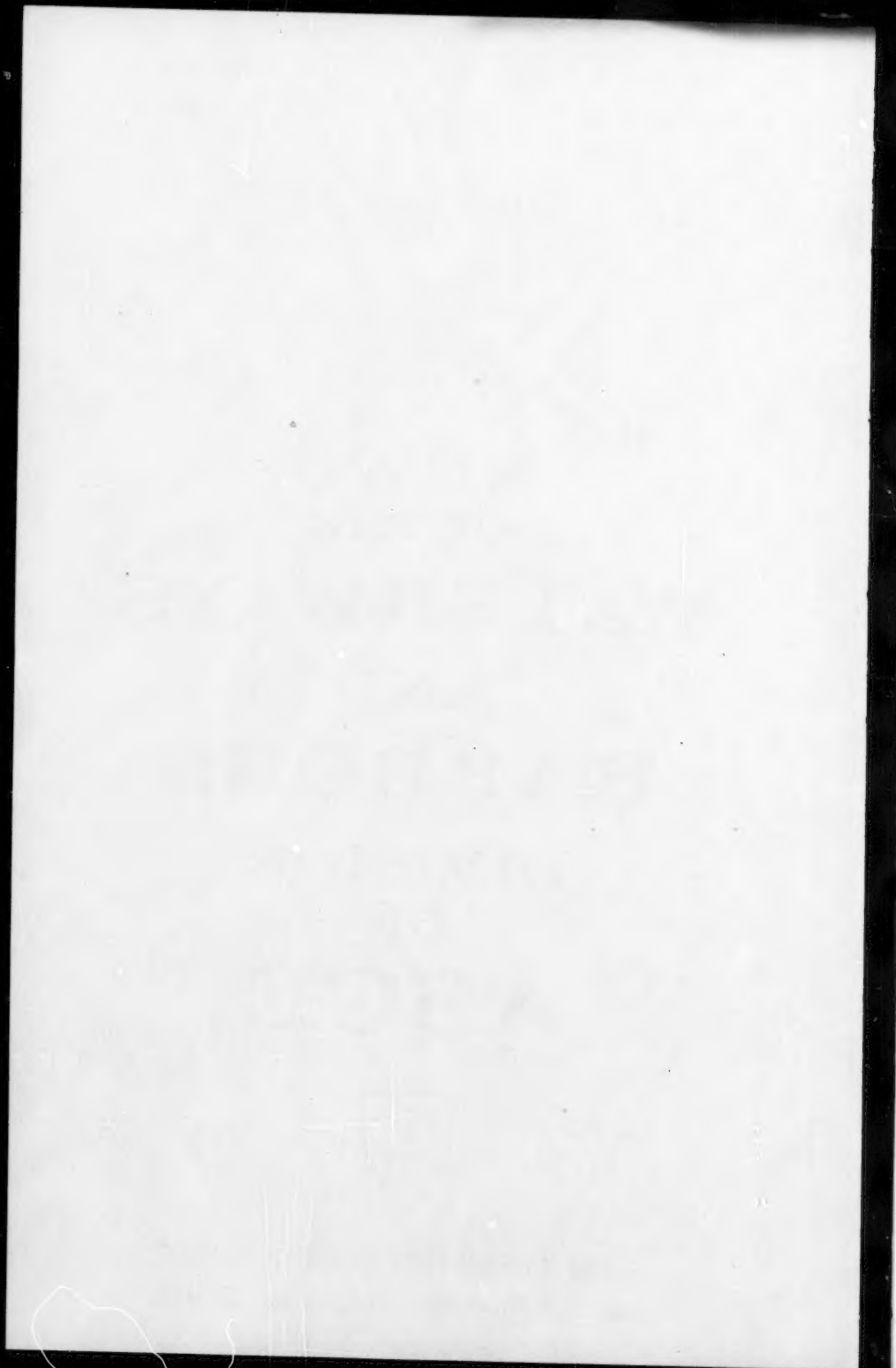
PART 2

Your attention is invited

**NEWS
OF THE
WATERWAYS
AND
HARBORS
DIVISION
OF
ASCE**



JOURNAL OF THE WATERWAYS AND HARBORS DIVISION
PROCEEDINGS OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS



DIVISION ACTIVITIES

WATERWAYS AND HARBORS DIVISION

Proceedings of the American Society of Civil Engineers

NEWS

December, 1958

NEW CHAIRMAN OF DIVISION EXECUTIVE COMMITTEE

Col. Lawrence B. Feagin, Chief of the Operations Division of the Mississippi River Commission, was elected Chairman of the Waterways and Harbors Division Executive Committee at the October meeting. Col. Feagin has been a member of the Executive Committee for three years. He succeeds as chairman Mr. Roger H. Gilman, Director of Port Development for the Port of New York Authority, who remains on the Executive Committee.

Professor Joe W. Johnson from the University of California was elected Vice-Chairman of the Committee. Prof. Johnson has been a member of the Executive Committee for one year.

At the October meeting Captain Lewis C. Coxe of the Bureau of Yards and Docks, U. S. Navy, retired from the Executive Committee. Capt. Coxe was Chairman of the Committee through the 1956-57 year, and served as the Division's representative on the ASCE Task Committee on Water Resources during the 1957-58 year.

SUGGESTED RESEARCH PROBLEMS COMPILED BY DIVISION COMMITTEE ON RESEARCH

In the September issue of the newsletter a listing was given of suggested research problems compiled by the Division Committee on Research. The problem of flood channel deterioration was discussed in detail in the Research Committee's report, but only briefly summarized in the newsletter. Since some questions have been raised concerning the description in the newsletter, the complete text included in the Committee's list is given below:

Flood Channel Deterioration.

The patterns of stream bed degradation and aggradation and the meandering of streams within confining flood control levees is of importance in modifications to streams by the construction of flood control works. Most streams in the western United States are not in equilibrium with relation to their sediment transport because of man-made modifications in the stream channels and in the watershed. Until

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the last 50 years the clearing of land for agricultural development increased the sediment load of streams; more recently, however, reservoirs tend to trap this sediment and reduce the sediment transport. The result today is that few streams have formed permanently stable channels which are in equilibrium with the limited sediment supplies and the regulated streamflows. In building levees for flood control, it is usually assumed that the stream channel is fixed, but there are many instances where shifting channels have destroyed levees. It is desirable to study on a model basis the factors which cause meanders to develop in a channel. This knowledge will be helpful in minimizing meanders by properly controlling streamflow, in levee design, and in levee location.

COMMITTEE ON SESSION PROGRAMS SPONSORED EIGHT SESSIONS DURING YEAR

The Division Committee on Session Programs under the direction of Mr. Raymond W. Sauer handled arrangements for eight sessions of the Division at three conventions during the 1957-58 year. The programs consisted of:

- a. New York Convention (October 1957)—Robert J. Winters, Local Contact Member
Attendance: 100-150
Sessions: Statler Hotel - 2; Princeton University - 1
Papers were sponsored by:
 - Committee on Navigation and Flood Control Facilities - 2
 - Bureau of Yards and Docks, Navy Department - 2
 - Committee on Coastal Engineering - 3
 - Waterways and Harbors Division and School of Engineering, Princeton University - 4Presided over by Roger H. Gilman
- b. Chicago Convention (February 1958)—Louis J. Rumaggi, Local Contact Member
Attendance: 50 - 70
Sessions: 2
Papers were sponsored by:
 - Committee on Navigation and Flood Control Facilities - 4
 - Committee on Research - 2Presided over by L. B. Feagin
- c. Portland Convention (June 1958)—Franklin S. Brown, Local Contact Member
Attendance: 50 - 75
Sessions: 2 - Waterways and Harbors Division
1 - Jointly sponsored with Hydraulics Division
Papers were sponsored by:
 - Committee on Navigation and Flood Control Facilities - 3
 - Committee on Research - 4
 - (3 Papers for Joint Session arranged for by Hydraulic Division)Presided over by Joe W. Johnson

CONVENTION PROGRAMS OF WATERWAYS AND HARBORS DIVISION

Mr. Ray W. Sauer, Chairman of the Committee on Session Programs and Col. Carroll T. Newton, Los Angeles contact member for the Committee, arranged for sponsorship by the Division of four sessions at the Los Angeles Convention. The Convention will be held on February 9 - 13, 1959, and Professor Joe W. Johnson will preside. The Divisions sessions are as follows:

Waterways and Harbors Division Sessions
Los Angeles Convention, February 9 - 13, 1959

SESSION: Sponsored by Committee on Coastal Engineering and Committee on Navigation and Flood Control Facilities.

"The Plan for Sand By-passing at Ventura County Harbor, California by William J. Herron, Chief, River and Harbor Planning Section, Los Angeles District, Corps of Engineers.

"Mean Effective Wave Energy Direction with Applications to Coastal Problem Analysis" by Omar J. Lillevang, Staff Engineer, Leeds, Hill and Jewett, Consulting Engineers, Los Angeles, California.

"Forces on Cylinders in Constant Linear Acceleration and Uniform Motion in Water" by A. D. K. Laird, Professor of Mechanical Engineering, University of California, Berkeley, California; C. A. Johnson and R. W. Walker, Research Assistants, University of California.

"Planning and Development Requirements for Small Craft Harbors" by James Dunham, Chief Engineer, California Division of Small Craft Harbors, Sacramento, California.

SESSION: Sponsored by Committee on Ports and Harbors.

Symposium on Use of Tetrapods.

Moderator—Mr. Hudson

"Kahului, Territory of Hawaii" by P. O. Palmer, U. S. Army Engineer District, Honolulu, Territory of Hawaii.

"Crescent City, California" by John Deignma, U. S. Army Engineer District, San Francisco, California.

"Richfield Oil Drilling Island, Rincon Point, Calif." by John A. Blumm, Consulting Engineer, San Francisco, California.

SESSION: Sponsored by Committee on Ports and Harbors.

"Subsidence Problem in Long Beach Harbor" by B. N. Hoffmaster, Chief Harbor Engineer, Board of Harbor Commissioners, Long Beach, California.

"Terminal Structures in Long Beach Harbor"
Author to be selected.

"Naval Shipyard Structures and Subsidence Problems" by Capt. Neal, P. W. O., Long Beach Naval Shipyard.

"Construction in Los Angeles Harbor" by Adm. E. V. Dockweiler, Los Angeles Harbor Department, California.

Joint Session

(Waterways and Harbors Div. and Hydraulics Div.)

"Los Angeles Flood Control Problem" Co-authored by Col. C. T. Newton, Dist. Engr., U. S. Army Engineer District, Los Angeles, Calif., and Mr. E. H. Hedger, Chief Engr., Los Angeles County Flood Control District.

"Effects of Reservoir Regulation on Regimen of River Channels Downstream Therefrom" by Mr. Joseph F. Friedkin, M., ASCE, Principal Engr., International Boundary Commission, El Paso, Texas.

"Survey of Mountain Snow Fields by Aerial Reconnaissance" by Mr. Walter J. Parsons, Ch., Hydrology Sec. and Mr. Glenn H. Castle, Hydrology Sec., U. S. Army Engr. Dist., Sacramento, Calif.

FIELD TRIP: Los Angeles Harbor—by boat.

The Waterways and Harbors Division will sponsor three sessions at the Cleveland Convention to be held on May 4 - 8, 1958. These sessions will be sponsored by the Committees on Coastal Engineering, Research, and Navigation and Flood Control Facilities. An inspection by both, of the Cuyahoga River is also planned. Mr. Richard M. Gensert is local contact member for the Committee on Session Programs for the Convention.

Considerable interest has already been evidenced in the Washington Convention (October 19 - 23, 1959) and it appears that the Waterways and Harbors Division will sponsor four sessions. Local planning for this Convention is being handled by Capt. Lloyd E. Root, CEC, USN, contact member for the Committee on Session Programs.

FUTURE ASCE CONVENTIONS

October 19 - 23, 1959	ASCE, Washington, D. C., Convention
March 7 - 11, 1960	ASCE, New Orleans Convention
June 19 - 23, 1960	ASCE, Reno Convention
October 9 - 13, 1960	ASCE, Boston Convention
April 10 - 15, 1961	ASCE, Phoenix Convention
October 16 - 20, 1961	ASCE, New York Convention
February 1962	ASCE, Houston Convention
May 1962	ASCE, Omaha Convention
October 15 - 19, 1962	ASCE, Detroit Convention

SUCCESSFUL CONVENTION HELD AT NEW YORK

At the October 1958 Convention in New York the Waterways and Harbors Division sponsored three sessions consisting of twelve papers. Mr. Robert J. Winters of the Port of New York Authority handled the arrangements for

these meetings. Attendance ranged from 75 to 125. The meetings were presided over by Mr. Roger Gilman and Col. Lawrence Feagin.

The New York Convention was followed by a two-day seminar discussion on problems of sand by-passing at inlets and design of groins and groin fields, held at Princeton University on October 10 and 11. This conference was sponsored by two task committees of the Committee on Coastal Engineering of the Waterways and Harbors Division, the one on Sand By-passing and the other on Design of Groins, and also by the Council on Wave Research of Engineering Foundation. Local arrangements were made by and through the Civil Engineering Department of Princeton, which also furnished meeting facilities. Attendance was by invitation, and some 40-odd engineers and geologists prominent in the general coastal engineering and littoral processes fields attended and actively participated in the discussions. These men represented agencies and institutions throughout the country. It is hoped that the proceedings of the meetings will be abstracted and published at a later date as interim reports of the two task committees, indicating present-day knowledge in these areas. The two-day meeting was followed by a one-day (Sunday October 12) field trip along the northern New Jersey coast, inspecting areas where sand by-passing is being considered or, as at Shark River Inlet, in process, and areas demonstrating some of the many types of groins found along this coast. The New Jersey State Department of Conservation and Economic Development (through its Navigation Bureau) cooperated in planning and carrying out this field trip.

COMMITTEE ON NAVIGATION AND FLOOD CONTROL FACILITIES SPONSORED TEN PAPERS

During the 1957-58 year ten papers at Society conventions were sponsored by the Committee on Navigation and Flood Control Facilities. The Committee is also considering the formation of Task Committees for special purposes as well as sponsorship of papers at future conventions. The Committee is headed by Charles F. MacNish of the North Central Division of the Corps of Engineers. The other members of the Committee are:

Mr. L. W. Angell
Mr. L. H. Burpee
Mr. W. A. Robinson
Mr. R. B. Meland
Col. Arthur C. Naumann.

THE DIVISION HAS ACTIVE COMMITTEE ON RESEARCH

Gen. Herbert B. Vogel's Committee on Research sponsored a total of six papers presented at Society conventions during the 1957-58 year. The Committee also prepared a list of research topics which was published in the September issue of the Newsletter.

The status of current research by universities and Government agencies have been studied by the Committee. Consideration was given to the adequacy of existing publications to disseminate the available information.

Mr. Howard J. Marsden, a member of the Committee, has been appointed a U. S. Representative on the Permanent Technical Committee on Ports, Organization of American States, and has prepared a paper entitled "Transportation Education in the United States," which has been distributed throughout the

Western Hemisphere and lists the opportunities available to Latin American students in this field in the United States.

The Committee has established machinery to keep current its list of needed research projects and will follow up on obtaining sponsorship. As a result of meeting with the Research Committee of the Society in September it will seek closer liaison with all research elements of the Society.

EXECUTIVE COMMITTEE MEMBERS TO ADVISE TECHNICAL AND ADMINISTRATIVE COMMITTEES

The Division Executive Committee has assigned its members to act as advisors and provide liaison to each of the Division's Committees. The assignments are as follows:

- R. O. Eaton - Committee on Publications and Committee on Coastal Engineering,
- L. B. Feagin - Committee on Session Programs and Committee on Regulation and Stabilization of Rivers,
- J. W. Johnson - Committee on Research and Committee on Cooperation with Local Sections,
- R. H. Gilman - Committee on Ports and Harbors and Committee on Navigation and Flood Control Facilities.

REPORT OF COMMITTEE ON DIVERSIONS

The Division Committee on Research has reviewed the report of the former Committee on Diversions and has decided that it should be placed in the Society Library where it would be available to all members.

DIVISION MEMBERSHIP

In November 1955, 290 ASCE Members were registered in the Waterways and Harbors Division. In November of this year 1,165 members were registered in the Division, for an increase of 300% in three years.

LOCAL SECTION ACTIVITIES OF DIVISION

The Committee on Cooperation with Local Sections was reorganized during the year. Mr. Francis G. Christian, Chairman of the Committee, reports that during the 1957-58 year Waterways and Harbors programs were held by the Columbia, Maryland, Miami, mid-South, and Sacramento Sections. It is planned during the current year to have all Committee members sponsor Waterways and Harbors programs in their Sections. The members of the Control Group for this Committee are

Floyd D. Peterson
George A. Smith
Harvill E. Weller
Howard A. Preston

WATERWAYS AND HARBORS DIVISION PUBLISHED FOUR JOURNALS

The Division Committee on Publications headed by Mr. Jay B. Hall, Jr. of the Beach Erosion Board, handled 39 papers during the 1957-58 year, and published four Waterways and Harbors Division Journals.

Manuscripts carried over from year 1956-1957	
Recommended for publication	7
Withdrawn or dropped without prejudice	2
Manuscripts received during year 1957-1958	
Recommended for publication	20
In process of revision by author	1
In process of review	5
Withdrawn or dropped without prejudice	4

Other members of the Committee on Publications are

Mr. Joseph M. Caldwell
Brig. Gen. Ellsworth I. Davis
Mr. James W. Dunham
Adm. W. Mack Angas

STUDY OF USE OF PUMPS FOR REPLENISHING LOCKAGE WATER

The U. S. Army Engineer District, St. Louis, is studying the use of re-circulating pumps in connection with proposed navigation locks on both Big Muddy and Kaskaskia Rivers, tributaries of the Mississippi River in southern Illinois. The studies are in the survey report stage to determine whether the lower portions of these rivers should be developed for navigation purposes. Shortage of assured low flows, particularly in the case of the Big Muddy, and the absence of economical impoundment reservoir sites, resulting in an extremely high cost for storage, have resulted in consideration being given to a plan to pump water during low-water periods from the lower pool into the upper pool at each lock and dam to replenish lockage water and losses by evaporation. So far as is known this method of providing lockage water has never been used in this country.

COASTAL ENGINEERING STUDIES IN PROGRESS

The Division Committee on Coastal Engineering under the direction of Richard O. Eaton of the Beach Erosion Board, formed a Task Committee on Groins and a Task Committee on Sand By-Passing. As reported below a joint 2-day seminar was conducted by the Committee's Task Committees with the cooperation of the Council on Wave Research at Princeton University. The Committee on Coastal Engineering also plans to initiate action toward the preparation of a report on the policy and regulations employed by the 28 coastal states in the administration of tidal and submerged lands. The members of the Committee on Coastal Engineering are:

James R. Ayers
Herbert C. Gee
Joe W. Johnson
James K. Rankin

The members of the Task Committees were listed in the September issue of the Division Newsletter.

AMERICAN ASSOCIATION OF PORT AUTHORITIES HOLDS ANNUAL MEETING IN HAWAII

At the annual meeting of the American Association of Port Authorities in Hawaii on September 15 - 19, 1958 many valuable committee reports were presented on subjects of interest to ASCE members.

AAPA Committee IV on Construction and Maintenance submitted a report written by various members of the Committee on their individual problems. The report included the following papers:

"Soil Stabilizer for Marine Terminal Facilities" by John M. Kyle, Chief Engineer, Port of New York Authority

"Current and Future Project of the National Harbours Board of Canada" Maurice Archer, Chairman, National Harbours Board, Ottawa, Canada

"Problems with Small Craft Harbors" by H. Morgan Noble, Consulting Engineer, Small Craft Harbors, Newport Beach, California

"Low Cost Concrete Deck on Existing Timber Dock" by Thane E. Brown, Chief Engineer, Commission of Public Docks, Portland, Oregon

"Fresh Water Construction for a Seaport. Duluth's Public Marine Terminals" by Robert T. Smith, Port Director, Port Authority of Duluth

"Use of Concrete in Marine Environments" by E. V. Dockweiler, Rear Adm., U. S. Navy, C. M. Wakeman, H. E. Stover, of the Los Angeles Harbor Department, San Pedro, Calif., and L. L. Whiteneck of Plicoflex, Inc., Los Angeles, California

"Finger Pier—Port of Cleveland" by J. H. Rowland, Commissioner, Division of Harbor, City of Cleveland, Ohio

Committee VI on Port Financing submitted a report on the results of questionnaire survey of 29 U. S. ports with regard to capital investment, financing and bond issuance. The report indicates that these 29 ports have a total capital investment of nearly 1.5 billion dollars. The Port of New York Authority occupies a singular position in that its total capital investment is 52% of the total of the 29 ports considered. The following table summarizes some of the data given in the report.

Capital Investment of Public Port Agencies
(millions of dollars)

	Total—28 public port Agencies	Port of New York Authority	Total—29 public port Agencies
Marine Terminals	\$410	\$104	\$514
Bridges and Tunnels	59	352	411
Aviation Facilities	23	237	260
Industrial Properties	89	---	89
Railroads	24	---	24
Other	75	64	139
Totals	\$680	\$757	\$1,437

Committee III on Ship Channels and Harbors reported on Federal appropriations for navigation projects, maintenance, and review studies. Mr. Roger H. Gilman a member of the Waterways and Harbors Division Executive Committee is Chairman of this AAPA Committee. The report indicates that the total amount devoted to navigation projects in the Public Works Appropriation

Bill increased from 229 million dollars in 1957-58 to 272 million dollars in 1958-59. A total of 89 projects are provided for, of which 36 are new starts and 53 are continuations of projects started in past years. The AAPA Committee also noted that the Omnibus Bill signed in July 1958 provided:

"That for preliminary examinations and surveys authorized in previous river and harbor and flood-control Acts, the Secretary of the Army is hereby directed to cause investigations and reports for navigation and allied purposes to be prepared under the supervision of the Chief of Engineers in the form of survey reports, and that preliminary examination reports shall no longer be required to be prepared."

The effect of this change should be shortening the time elapsed between authorization and completion of navigation review studies.

RECENT PUBLICATIONS OF INTEREST

Recent publications which may be of interest to engineers and others engaged in port and harbor work are listed below:

"Trends in Channel Improvement and Vessel Construction", Permanent Technical Committee on Ports, Organization of American States, 1958.

"Recent Research in Maritime Transportation", Maritime Cargo Transportation Conference, National Academy of Science, 1958.

"Engineering Study of the Effects of the Opening of the St. Lawrence Seaway on the Shipping Industry", Maritime Administration, U. S. Department of Commerce, 1958.

FILMS ON PORTS AND HARBORS

Mr. Roger Gilman of the Port of New York Authority and a member of the Division Executive Committee, assembled the following list of Port films. All of these films, but one, are 16mm, and all but one have a sound track.

Port Films		
<u>Title</u>	<u>Running Time</u>	<u>Available From:</u>
"Via Port of New York"	27 minutes	Port Promotion Manager The Port of New York Authority 111 Eighth Avenue, New York 11, New York
"Baltimore-World Port"	30 "	Maryland Port Authority 1040 Mathieson Bldg. Baltimore 2, Maryland
"The Ports of Virginia" (35 m.m.)	30 "	Mr. Tom Davis, Dir., Bur. of Adv. Virginia State Ports Authority 254 Granby Street Norfolk 10, Virginia

Port Films (Continued)

<u>Title</u>	<u>Running Time</u>	<u>Available From:</u>
"The Port of Galveston"	26 minutes	Mr. Stacey Bender, Dir. of Trade Promotion Galveston Wharves, Box 328 Galveston, Texas
"Island City on the Sea"	15 "	Houston Port Bureau 25 Broadway New York 4, New York
"General Cargo Wharf"	20 "	The Commissioners of the
"Gateway to the World"	20 "	Port of New Orleans
"New Orleans, The Inter- national City"		25 Broadway New York 4, New York
"Short Cut to World Markets"	20 "	Delaware River Port Authority P. O. Box 69, Camden 1, New Jersey
"Delaware River, Port of Opportunity"	24 "	Delaware River Port Authority
"Highway to the World"	17 "	42 Broadway New York 4, New York
"Via Seattle"	26 "	Seattle Port Commission P. O. Box 1878 Seattle 11, Washington
"Harbor of the Sun"	30 "	Port of San Diego 1365 Harbor Drive San Diego, Calif.
"Latitude North 34°, Longitude West 118°"	23 "	Port of Los Angeles Room 1300, City Hall Los Angeles, Calif.
"The Influence of Geography and History on the Port of New York"	10 "	International Geographic Pictures 1776 Broadway New York 19, New York
"The Eighth Sea" (Saint Lawrence Seaway)	30 "	Caterpillar Tractor Company 600 West Washington Street Peoria 8, Illinois
"Land of Promise" (Saint Lawrence Seaway)	28 "	The Cleveland Electric Illuminating Co. 91 Public Square Cleveland 1, Ohio
"H ₂ O—New York"	27 "	New York State Dept. of Commerce Film Library, 28 Howard St. Albany 7, New York

Port Films (Continued)

<u>Title</u>	<u>Running Time</u>	<u>Available From:</u>
"Where Do We Go From Here?"	28 minutes	San Francisco Bay Area Council 130 Montgomery Street San Francisco 4, California
"An Industrial Lakeport" (Buffalo)	20 "	United World Films, Inc. 1445 Park Avenue New York 29, N. Y.
"Port of New York"	16 "	RKO Pictures Corp. 1270 Avenue of the Americas New York City, New York
"St. Lawrence Power Project"	29 "	Power Authority of New York State 270 Broadway New York 7, New York
"Great Lakes Miracle" (Silent)	30 "	Lake Carriers Association Cleveland 13, Ohio
"The Master Element"	30 "	The American Waterways Operators, Inc. 1025 Connecticut Avenue Washington 6, D. C.
"The Port of Manchester, England"	30 "	Mr. Wm. A. Cormany, Jr. Manchester Ship Canal Co. 24 State Street New York 4, New York
"Timberhead"	31 "	Union Barge Line Corp. Dravo Bldg. Pittsburgh 22, Pa.
"Port of Miami"	20 "	Propeller Club of the U. S. 17 Battery Place New York 4, New York
"The Port of Bristol" (England)	45 "	British Information Service Rockefeller Plaza New York 20, New York

